What Is Claimed Is:

1. A real-time computer-based viewing system comprising:

a database of pre-existing software objects, wherein at least one of said software objects corresponds to a physical structure which is to be viewed by said system;

a real-time sensor for acquiring data about said physical structure when said physical structure is located within that sensor's data acquisition field, wherein said sensor is capable of being moved about relative to said physical structure;

generating means for generating a real-time software object corresponding to said physical structure using data acquired by said sensor;

registration means for positioning said real-time software object in registration with said pre-existing software objects contained in said database; and

processing means for generating an image from said software objects contained in said database, based upon a specified point of view.

2. A system according to claim 1 wherein said generating means creates a software object corresponding to a disk.

3. A system according to claim 2 wherein said generating means are adapted to texture map the data acquired by said sensor onto said disk.

4. A system according to claim 1 wherein said registration means comprise tracking means for determining the spatial positioning and orientation of said real-time sensor.

5. A system according to claim 1 wherein said registration means comprise tracking means for determining the spatial positioning and orientation of said physical structure.

6. A system according to claim 1 wherein said system further comprises user input means for permitting the user to provide said processing means with said specified point of view.

7. A system according to claim 1 wherein said system further comprises user tracking means for providing said processing means with said specified point of view.

8. A system according to claim 1 wherein said real-time sensor comprises an endoscope.

9. A system according to claim 1 wherein said physical structure comprises an interior anatomical structure.

10. A real-time computer-based viewing system comprising:

a database of software objects;

image generating means for generating an image

from said software objects contained in said database, based upon a specified point of view; and

means for specifying a point of view;

wherein at least one of said software objects contained in said database comprises pre-existing data corresponding to a physical structure which is to be viewed by said system; and

wherein at least one of said software objects comprises data generated by a real-time, movable sensor; and

wherein said system further comprises registration means for positioning said at least one software object comprising data generated by said real-time, movable sensor in registration with said at least one software object comprising pre-existing data corresponding to said physical structure which is to be viewed by said system.

11. A system according to claim 10 wherein said at least one software object comprising data generated by said real-time, movable sensor corresponds to a disk.

12. A system according to claim 11 wherein said data generated by said real-time, movable sensor is texture mapped onto said disk.

13. A system according to claim 10 wherein said registration means comprise tracking means for determining the spatial positioning and orientation of said real-time, movable sensor.

14. A system according to claim 10 wherein said registration means comprise tracking means for determining the spatial positioning and orientation of said physical structure.

15. A system according to claim 10 wherein said means for specifying a point of view comprises user input means.

16. A system according to claim 10 wherein said means for specifying a point of view comprises user tracking means.

17. A system according to claim 10 wherein said real-time, movable sensor comprises an endoscope.

18. A system according to claim 10 wherein said physicial structure comprises an interior anatomical structure.

19. A method for viewing a physical structure, said method comprising the steps of:

(A) providing:

a database of pre-existing software objects, wherein at least one of said software objects corresponds to a physical structure which is to be viewed by said system;

a real-time sensor for acquiring data about said physical structure when said physical structure is located within that sensor's data acquisition field, wherein said sensor is capable of being moved about

relative to said physical structure;

generating means for generating a real-time software object corresponding to said physical structure using data acquired by said sensor;

registration means for positioning said real-time software object in registration with said pre-existing software objects contained in said database; and;

processing means for generating an image from said software objects contained in said database, based upon a specified point of view;

(B) positioning said sensor so that said physical structure is located within that sensor's data acquisition field, and generating a real-time software object corresponding to said physical structure using data acquired by said sensor, and positioning said real-time software object in registration with said pre-existing software objects contained in said database;

(C) providing a specified point of view to said processing mean; and

(D) generating an image from said software objects contained in said database according to said specified point of view.

20. Apparatus according to claim 3 wherein said generating means comprises means for varying the relative density of the data which is texture mapped onto said disk, whereby the portion of the image generated by said processing means which is attributable to data acquired by said real-time sensor

can be faded relative to the remainder of the image generated by said processing means.

21. A system according to claim 1 wherein said generating means creates a software object corresponding to a disk.

22. A system according to claim 21 wherein said generating means are adapted to texture map the data acquired by said sensor onto said disk.

23. A system according to claim 10 wherein said at least one software object comprising data generated by said real-time, movable sensor corresponds to a disk.

24. A system according to claim 23 wherein said data generated by said real-time, movable sensor is texture mapped onto said disk.